

N^o 28,819



A.D. 1904

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COMPLETE SPECIFICATION.

“Improvements in Respirators”.

I, WILLIAM JAMES KEYMER, of 66, Fenchurch Street, in the City of London, Merchant, do hereby declare the nature of this invention (a communication to me by R. G. C. Baldrey, of the Madras Police, Coimbatore, Madras Presidency, India) and in what manner the same is to be performed to be particularly
5 described and ascertained in and by the following statement:—

This invention relates to a respirator adapted to be inserted into the nostril.

According to the invention the improved respirator comprises a hollow body of any suitable material such, for example, as aluminium, glass, porcelain and the like and which is of such a shape that it can be fitted and retained
10 within the nostril. The said body is provided with an opening at its lower part, that is to say, an opening corresponding to the orifice of the nostril and also with an opening at its apex. These two openings, however, are not in direct communication with one another, but by a single or a double U-shaped passage formed by the provision within the hollow body of a septum or
15 partition.

In practice the body is made compressible, and preferably in two or more parts, so that it can be inserted into the nostril, the septum or partition being advantageously made of an elastic material to permit of the compression taking place.

20 The interior of the respirator is coated with a viscid preparation and a small quantity of this viscid fluid is retained in the lower bend of each of the curved passages connecting the lower opening with the opening at the apex. It will be clear that when respirators as above described are made use of, air breathed through the nose of the user passes through the said respirator (one of which
25 is fitted in each nostril) and any dust which may be contained in the air is arrested by the walls of the passage or passages and is retained by the viscid coating applied thereto; the fluid in the bends of the air passages serves to retain what may not be arrested by the walls of the passages.

A magnet or piece of magnetized material may be located within the entrance
30 to the respirator in order to arrest fine steel filings and the fluid within the air passages may contain a disinfectant.

In the accompanying drawings:—

Figure 1 is an elevation of a collapsable respirator made according to the invention and having a double air passage.

35 Figure 2 is a plan view thereof.

Figure 3 is a longitudinal section of the respirator.

Figure 4 is an underside view, and

Figure 5 is a view similar to Figure 3, but showing the respirator collapsed for insertion into the nostril.

40 Figure 6 is a view illustrating the mode of employing the respirator.

Figure 7 is a sectional view of a collapsable respirator having a single air passage only.

[Price 8d.]

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Figure 8 is a view similar to Figure 7 of a respirator with a single air passage, but which is not collapsable, and

Figure 9 is a view of a respirator similar to Figure 8 but having two air passages.

Referring first to the arrangement illustrated in Figures 1 to 5, *a* represents the body of the respirator which, as above described, may be made of suitable light metal, such as aluminium, or of glass, porcelain or similar material; *b* is the lower opening which corresponds to the orifice of the nostril, and *c* is the opening at the apex. *d* is an internal septum or partition which is of the curved shape shown and which separates the lower opening *b* from the apex opening *c*, the former opening being provided with internal upwardly extending lips *e, e* which form, in conjunction with the aforesaid septum or partition *d*, two curved or U-shaped air passages *f*.

The body is formed with an external lip around the lower orifice *b*, this being adapted to fit around the outside of the nostril orifice so as to hold the device in place within the nostril. Furthermore, in order to admit of the respirator being introduced into the nostril with facility, the body thereof is made in two parts, as clearly shown, the meeting edges of which overlap as indicated at *g*. By thus constructing the device it can be easily collapsed, and to admit of this being done the septum or partition is made of spring metal, such as a strip of nickel which is secured within the body of the device in any suitable way. Figure 5 illustrates the method of collapsing the respirator when it is to be inserted into the nostril, and Figure 6 shows a respirator in position.

In Figure 7 there is illustrated a respirator which is similar in construction to that above described with the exception that only a single air passage *f* is provided.

Figure 8 is a representation of a respirator which is the same in form as that shown in Figure 7, but the body of which is made in one part so that it is not collapsable.

Figure 9 is a view of a respirator which in form is the same as that illustrated in Figures 1 to 5, but the body of which is made in one piece so that it is not collapsable.

As above described, when the respirator is to be used, the interior surface of the body *a* and the surface of the septum or partition *d* is coated with a suitable viscid fluid and a small quantity of the fluid (which may contain a disinfectant) is introduced into the bend or bends *h* of the air passage or passages. The air which is breathed by the user passes up through the lower orifice *b* and strikes against the septum or partition *e* down which it is guided, depositing in its passage any particles of dust which it may contain. Those particles which may not be deposited are arrested by the fluid within the bends *h* so that the air which ultimately escapes through the apex *c* is practically freed from dust. A suitable magnetic device may be used in conjunction with the respirator for arresting steel particles, but this would only be of use in special cases.

It will be understood that the respirators are made to fit both the right and left nostrils.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A respirator for insertion into the nostril, comprising a hollow body having a lower opening and an opening at the apex and an internal septum or partition for providing one or more curved passages between the lower and upper openings, substantially as, and for the purpose, hereinbefore described.

2. A respirator for insertion into the nostril, comprising a collapsable hollow body made in two or more parts and having a lower opening and an opening at the apex and an internal septum or partition of elastic material for providing

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a curved passage or passages within the body between the lower and upper openings, substantially as hereinbefore described.

3. Respirators constructed substantially as hereinbefore described and illustrated respectively in Figures 1 to 5; 7; 8 and 9 of the accompanying drawing.

5 Dated the 29th day of December 1904.

G. F. REDFERN & Co.,
4, South Street, Finsbury, London,
Agents for the Applicant.

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Fig. 1.

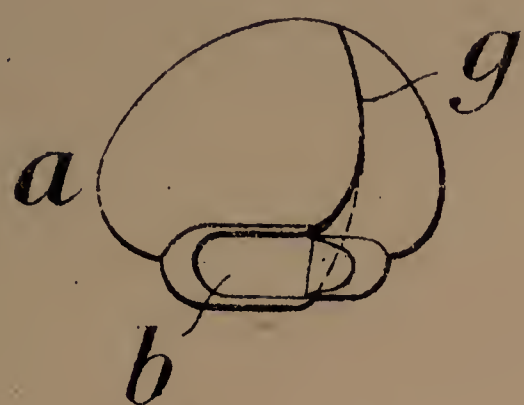


Fig. 2.

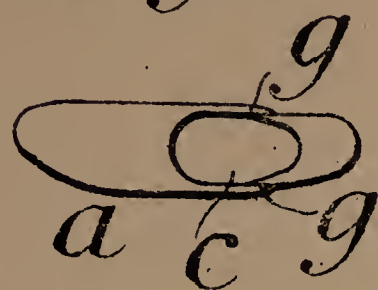


Fig. 5.

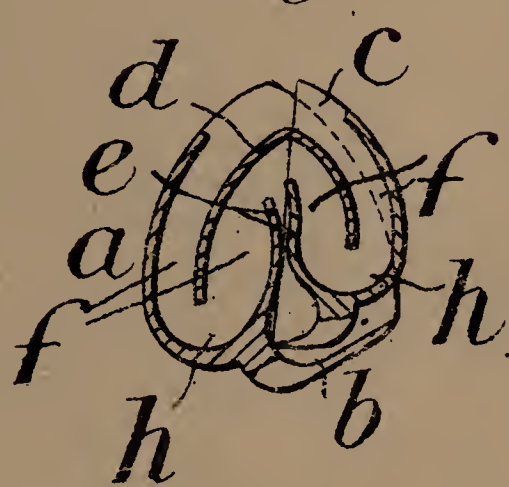


Fig. 6.

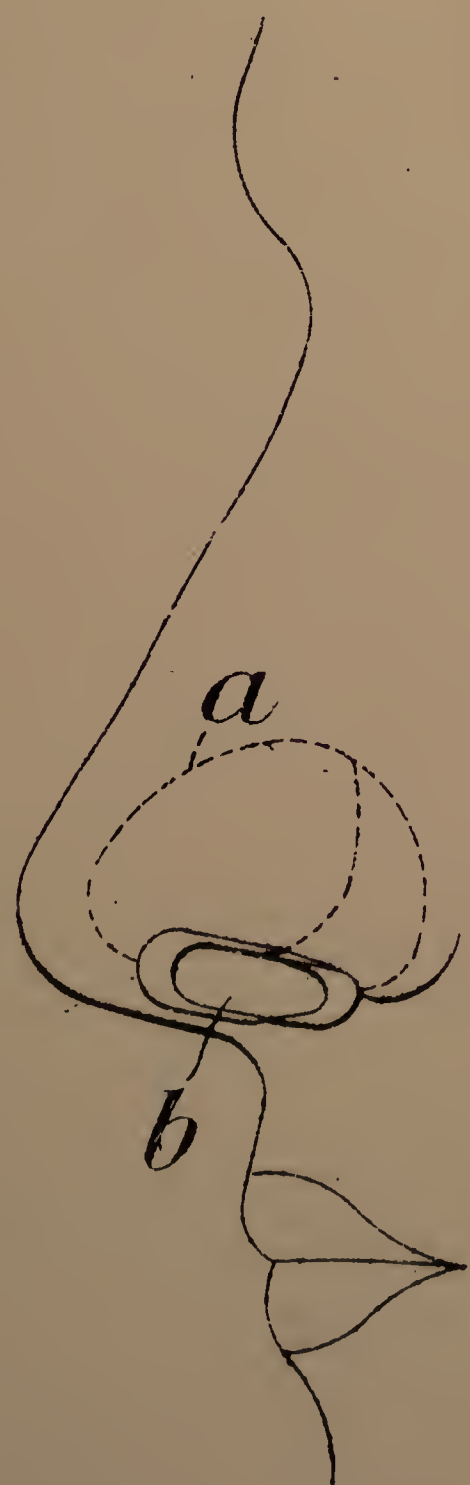


Fig. 3.

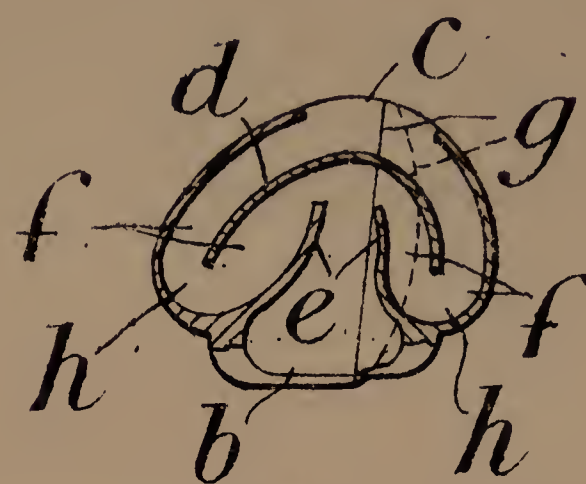


Fig. 4.

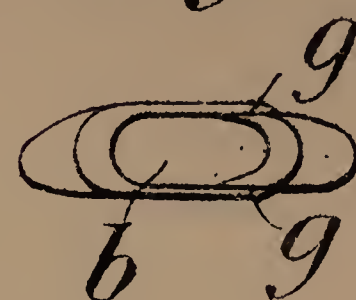


Fig. 7.

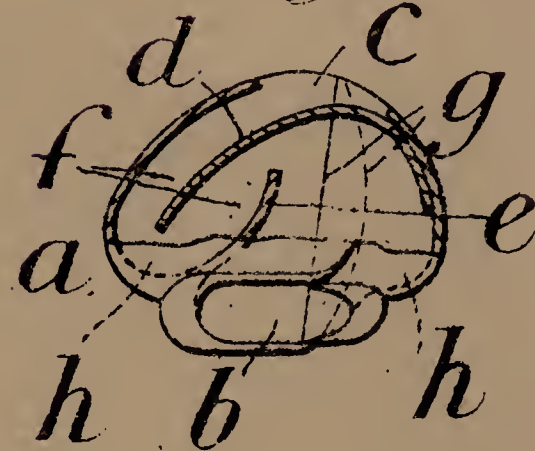


Fig. 8.

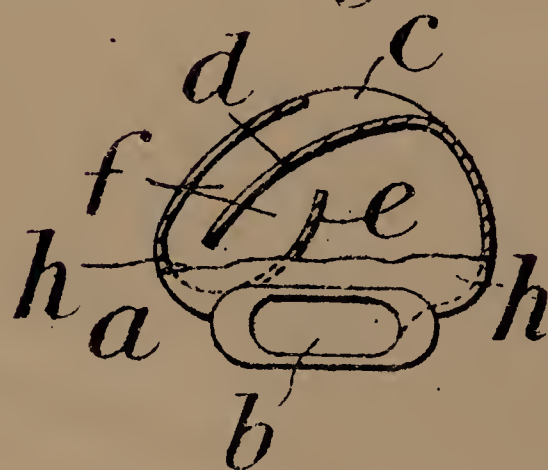
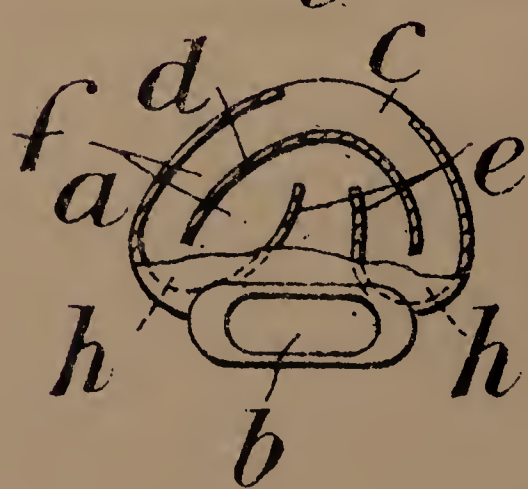


Fig. 9.



[This Drawing is a reproduction of the Original on a reduced scale.]

